

APPLICATION  
FOR  
UNITED STATES LETTERS PATENT

097300-02653750  
TITLE: ORTHOGONAL FREQUENCY DIVISION  
MULTIPLEXING RECEIVER DEVICE  
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## ORTHOGONAL FREQUENCY DIVISION MULTIPLEXING RECEIVER DEVICE

CROSS REFERENCE TO RELATED APPLICATION

This application is based on and incorporates herein by reference Japanese Patent Application No. 2000-46799 filed February 18, 2000.

## BACKGROUND OF THE INVENTION

The present invention relates to an orthogonal frequency division multiplexing (OFDM) receiver device in communication systems utilizing an orthogonal frequency division multiplexing system.

Recent communication systems are required to transmit large capacity data such as video information or the like as the digital value not only with wire transmission system but also with radio transmission system. In this case, it is essential to introduce not only the Phase Shift Keying system to modulate the phase with the information by utilizing difference of phase such as BPSK and QPSK or the like but also the Quadrature Amplitude Modulation system to modulate the phase and amplitude with the information by utilizing differences of phase and amplitude such as 16QAM and 64QAM or the like. The signal modulated with the QAM method such as 16QAM and 64QAM is transmitted from a transmitter. The transmitted signals is then received by a receiver device through the transmission path, and demodulated to the original data through the synchronous detection.

In this case, when the wired transmission path is used, any problem does not occur. However, when the radio or wireless